

Evaluation of Position Description

Labor Category/FLSA: Nonexempt

 Current Position Description

 X **Proposed Position Description**

Date Prepared: 07/01/03

Approving Official: Name: Sheryl A. Wheeler

Signature: 

Title: HR Specialist

Position Title/Series/Grade: Door Systems Mechanic, WG-5364-10

ORGANIZATION: Division of Property Management

REFERENCES: Federal Wage System, Job Grading Standards: Definition of Trades and Labor; Carpenter, WG-4607, 4/91; Electrician, WG-2805, 6/89; Air Conditioning Equipment Mechanic, WG-5306, 6/ 71; Production Machinery Mechanic, WG-5350, 11/80; Electronic Industrial Controls Mechanic, WG-2610, 4/87.

TITLE AND SERIES DETERMINATION: The primary purpose of the Door Mechanic is to respond to the installation, maintenance, repair and inspection of all doors on the NIH campus. This includes pneumatic, electronic, motion detection, card-key, electron-mechanical, and standard hung doors. This is a critical issue as these doors are integrated electrical systems, fire systems, security systems, panic hardware, card keying systems, doors. This is obviously a mix of requirements. The description of work is consistent with the definition of Door System Mechanic, WG-5364. It should be noted that this series does not have standards published for it. Therefore, the appropriated title of this position is Door System Mechanic, WG-5364.

GRADE DETERMINATION: Considering the scope of work required, the knowledge of various skills, it is reasonable to compare this position to the 10 level in other types of work. Work requirements entails a number of trades applications, of which the predominant work is several series at journeyman grade level WG-10 explained in job description. Remaining trades are predominantly at other levels and not above WG-10.

CONCLUSION: Work depicted in the duties are properly considered in accordance with the WG-5364, Door Systems Mechanic. Duties are described at the WG-10, none being above WG-10. In accordance with the classification practices and titling prescribed, the proper classification for subject job is therefore determined to be Door Systems Mechanic, WG-5364-10.

Installation: National Institutes of Health, Bethesda, MD
Title: DOOR SYSTEMS MECHANIC
Occ Series: 5364
Pay Plan: WG
Grade: 10

Introduction: The Division of Property Management (DPM) serves all of the NIH Community by providing support for renovations, new construction and maintenance of existing facilities, utilities and grounds. The Division provides professional leadership for the engineering programs of the National Institutes of Health (NIH). The scope of DPM operations is such that the effectiveness with which they are carried out has a major and direct effect on the worldwide biomedical research programs of the NIH. In addition to the main facilities at the Bethesda Campus and in Poolesville, MD, NIH has facilities at Research Triangle Park, North Carolina, Rocky Mountain Laboratory in Montana and the Gerontology Research Center in Baltimore, MD.

This position is organizationally located within the DPM in one or more of the subordinate organizational components responsible for the provision of operations and maintenance of NIH facilities. The position is that of a Door Systems Mechanic to include locksmithing duties, but also requires the incumbent to be multi-disciplinary and requires the incumbent to be multi-skilled and flexible in the types and complexity of work performed. The position requires that the incumbent be able to work independently and take the initiative to complete the work assigned with a minimum of direct supervision regardless of the nature of the work thus requiring that specific trade skills be shared between staff members.

Duties:

Major Duties;

The incumbent's job includes installation, removal, and maintenance of wood and metal, laboratory, office, and general entrance doors, hardware (i.e., electronic, hinges. Locks, door closers, stops, etc.) Lays out, fabricates, and glazes metal and wooden windows and doors.

Performs duties of the carpentry trade using power, wood and metal working tools, machines and techniques. Included are circular saws, band saws, joiners, planners, routers, sanders, hand drills, electric hammer and miter saws. Makes templates to jigs to hold or guide material being processed.

Incumbent installs, maintains, and repairs electrical wiring systems, related switches, distribution panels and outlet boxes associated with electronically, specifically with the Andover Access System, controlled doors, as well as a wide variety of electrical fixtures, tools, and appliances. Inspects, maintains, cleans, repairs, tests, and adjusts a variety of equipment circuitry and fixtures such as electrical buzzer and bell circuits, light sockets, lighting fixtures, fire alarms, timers, rheostats, thermostats and electrical drills, grinders, and shop equipment.

The incumbent following maintenance schedules and inspections or work orders, performs maintenance services, diagnoses system or equipment malfunction, and repairs as necessary. The incumbent tests circuits by use of various test equipment, such as voltmeters, ammeter, wattmeter, and ohmmeter. The incumbent measures, cuts, threads, bends, assembles, and installs conduits, inserting splicing and connecting wires to fixtures, outlets, switches, reciprocals, and power source. Performs maintenance and updates card key system, repair and maintenance of electronics distribution systems, (card key) power circuits, control circuits, fire door devices, and miscellaneous electrical and mechanical systems.

The incumbent's job includes the inspection and maintenance of panic hardware (electronic door closers low voltage), hinges, locksets, latches, knobs, weather stripping, sills, glass, doorframes, sashes, low voltages electronic door controls, relays, switches, and door bolts. The incumbent will also repair and maintain fire doors (low voltage electronic and hydraulic) systems. The incumbent will do basic lock keying, upgrade, repair, and troubleshoot electronic, hydraulic, and mechanical parts of the Card-Key System, including terminal inner-face, multi-plex units, and solid state control boards in the card reader terminal.

Troubleshoots sophisticated electromagnet, panic, and fire exit door devices, which contain electronic components that compensate for heat with fixed temperature and rate of rise features.

Performs preventive maintenance inspections on various types of electronic systems and pieces of equipment in accordance with established inspection guides. Reports deficiencies and recommends corrective action to supervisor. Makes on the job repairs of an emergency nature, which if postponed would result in serious damage, or loss of equipment.

Typical work of the shop includes updating card key system repair and maintenance of electronics distribution systems, (Andover) power circuits, control circuits, fire door devices, and miscellaneous electrical/mechanical systems.

Inspects, fabricates, assembles, adjusts maintains, and repairs all types of locks used to secure the property and records of NIH and its personnel, both on and off campus facilities. In this connection the incumbent performs installations and maintenance work on mortise locks, desk locks, file cabinets locks, combination locks, safe locks, alarm locks, electric strikes and electromagnetic key card locks. The incumbent is skilled in implementing and working with the ultra-sophisticated electromagnetic lock and Cardkey access system, which was recently, installed at NIH and its satellite facilities. The incumbent is qualified to repair malfunctions, to factually determine the cause and execute corrective procedures to alleviate the problem with a minimum of expenditure and time loss due to the malfunction and at the same time, possess a thorough knowledge of the intricacies of locks, conjunctive with the electromagnetic factors. The incumbent has an intricate knowledge of locking devices conjunctive with the electromagnetic factors that constitute the entire system in the event of systemic malfunction since the Cardkey access system is also electronically stimulated. These systems will be governed by a computer, and the incumbent possesses a working knowledge and capability of analyzing system malfunctions. Rekeys cylinders when keys have been lost or taken from the premises without authorization. As necessary, fabricates unavailable parts with which to effect repair of locks, including making locksmithing tools; using key cutting machines, lathes, drill presses, and various hand tools. Makes own lock picking instruments. Keeps abreast of developments in the locksmithing field, and collaborates in designing Grand Master Key System. The incumbent is qualified to attend electrical courses in private time to better his/her understanding in the field of electromagnetic locks.

Combines lock cylinders to conform to the building master key system. Makes keys as authorized and is responsible for the issuance of change keys only to properly authorized personnel. Prepares a locator card for all keys issued, including the type of lock, type of key, master type, number and to whom issued.

Maintains "Building Master" keying of all interior and exterior doors. IN this connection, sets up the building masters and any special masters that may be required in a restricted area consisting of a number of rooms or lab. Changes both cylinder and padlock type locks to conform to master key bitting. Makes and issue master keys as authorized by the Chief, Shops Section.

Incumbent codes and bits new change keys and cylinders that must conform closely with the existing overall systems to avoid duplication of existing keys and yet obtain maximum working efficiency from a limited overall total of different key changes. This coordination and effectiveness is derived from an extensive knowledge of the mechanical and mathematical factors involved in developing the total usable changes within a given change key system and from the practical application of known bitting schedules in the most strategic pattern at avoid interchange of key codes.

In addition to door, access system and locksmith work as detailed above, the incumbent may be assigned other General Maintenance Work: Performs a variety of task associated

with assisting journeyman level mechanics in the fields of carpentry, electric, HVAC/R, plumbing, pipefitting, masonry and grounds maintenance.

Performs other duties as assigned.

Skills and Knowledge:

Broad knowledge of the composition, operation, and installation of a variety of electrical systems, circuits, equipment, and controls. Knowledge of national and local electrical codes. Ability to plan, layout and complete installation, modification and repair of various systems, circuits, equipment, and controls. Ability to interpret and apply plans, blueprints, wiring diagrams, and other engineering drawings. Skill in the use of a wide variety of test equipment such as voltmeter, ammeter, wattmeter, and ohmmeter.

Must have full knowledge of the makeup, operation, and installation of all components, assemblies, and door systems. Must know what parts and mechanisms can be reworked and reined or should be replaced with new parts or reinstallation of complete door module.

Broad knowledge of electronic shop trade practices, knowledge of test equipment capability, standard practices for test equipment capability, standard practices for test and operation, theory of operation of numerous types of electronic circuits and their effect on one another. Skill in applying this knowledge to adapt test procedures to available equipment and conditions, to develop shortcuts to return equipment to operation in a limited time.

Broad practical knowledge of electronic principles and their application to a wide variety of complex circuitry and evaluate the significance of voltage, current, curve shape, phase shift, etc. at various points throughout the circuits and relate these to the overall operation of the system(s). Skill in applying this knowledge to troubleshoot and repair malfunctions where circuit theory must be understood in order to repair, not only individual circuits, but also to understand their interaction with other circuits and components and the reasons for failure in one mode of operation and not another.

Skill in the interpretation of drawings, specifications and schematics of complete systems to recognize the function and interconnections of various assemblies and troubleshoot the system from a schematic.

Ability to diagnose problems and determine corrective action for complex electronic units and complete systems. Ability to see through the interaction of a number of complex, interrelated circuits such as timing circuits, etc., to determine the obvious cause of a malfunction and the interaction of factors which together caused the failure.

The incumbent will also need to have a high degree of knowledge in troubleshooting and repair of electronic locking devices, power transfer switches (low voltage), door alarms,

smoke detection, magnetic door holders, door closers, door releases, exit controls, primary system interfacing units, and system access controls. Motion sensors (passive infrared, microwave) relays, transformers, digital keypads, magnetic switches, micro switches.

The incumbent will need to know the safety codes relating to fire and exit doors (fire Door NFPA-80, Life Safety NFPA-107, and Accessibility NFPA-1-5). The incumbent must have knowledge of codes and regulations to determine proper door for a given area.

In addition to the full range of qualifications required and knowledge needed to perform the above-mentioned locksmith duties, incumbent's honesty, trustworthiness, and integrity must be above reproach. He/she must have proficiency in dealing with employees and professionalism in dealing with officials and guests at NIH when called upon for assistance. Incumbent must demonstrate a high level of rationality and be able to obtain a security clearance. Knowledge is obtained from various books, manuals, and technical journals, as well as from formal training courses on new techniques in the field. Incumbent must possess and maintain a high state-of-the-art technical knowledge with regard to the entire range of protective devices and techniques with which he must operate. The incumbent will also be working with emergency fire, rescue, and police personnel in planning the correct emergency key systems for the new elevators, to provide prompt and efficient service in time of emergency.

General trade knowledge within the trade and skills usually associated with maintenance operations such as carpentry, electric, HVAC/R, plumbing, pipefitting, masonry and grounds maintenance.

Responsibility:

Receives assignments from supervisor or work leader orally or in the form of written or electronic service orders. Generally receives radio dispatched trouble calls while on call and makes emergency repairs. Incumbent determines the type and extent of repairs needed, methods and techniques to use, parts or components required, and completes work typically with no check in progress. Ensures the end product meets all specified requirements.

Incumbent is responsible for the safe operation of the vehicle following all safety rules, regulations, and traffic signs. Assures that cargo is arranged properly for best support. Incumbent's ability is regularly observed and evaluated, and trip tickets are checked for Compliance with regulations and completeness.

Physical Effort:

Work requires walking, standing, stooping, bending, kneeling, climbing, and working in tiring and uncomfortable positions. Frequently lifts and carries parts and equipment weighing up to 40 pounds; occasionally handles items weighing up to 100 pounds.

Working Conditions:

Position may be subject to shift or irregular work hours.

Works inside and outside, exposed to dirt, sewage, dust, grease, fumes, and refrigerant gases. Is subject to injury from use of hand and power tools, and to burns, cuts, bruises, and electrical shock. May be required to wear and/or use protective clothing and equipment in accordance with established health and safety regulations and SOP s.

Works outside and is occasionally exposed to bad weather while loading and unloading vehicle. Is subject to cuts, bruises, and broken bones as a result of accidents while driving or when loading and unloading vehicles. Is exposed to the possibility of serious accidents while driving in all types of traffic and weather